AGC/WSDOT Structures Team Minutes
November 19, 2004

Members in Attendance

Attendees:	Company	Phone	E-mail
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The meeting began at 9:00 AM. November 19, 2004 meeting minutes were reviewed and approved with minor spelling and punctuation corrections.

New Vibration Limits Specification-Test Results

This item is deferred until next month. Charlie McCoy who was going to report on vibration testing was absent from the meeting. Scott Ayers said he had a test site in Everett that has had some significant settlement and would still be a good test site.

Action Item: Put on next month's agenda for further discussion.

Dowel Embedment Length-Discussion Topic #23

No action or discussion at this meeting. Jim Schettler is the lead investigator and was absent.

Action Item: Put on next months agenda.

Shaft Centralizers

Moh passed out three proposed types of centralizers for use to keep the reinforcing cage centered in shafts during construction. One is an epoxy coated modified hairpin that quite a few contractor's have been using currently. The second was a spacer being developed in California, and the third was a dome shaped plastic spacer that Don Morin of DMI Drilling was working on with a patent pending. This presentation was for the information of the contractors, as this matter had already been discussed with the ADSC committee and the reinforcing steel placement subcontractors.

Action Item: No action necessary.

Substructure Closure Pours-Discussion Topic # 19

Jugesh said that the State would only use closure pours in the substructure if settlements between the closures were anticipated to be high. The only other closure pours that he could remember were in end diaphragms for bridge widening. End diaphragm closures are needed to allow for the widened diaphragm segment to deflect freely without any restraints of the existing bridge during deck placement.

Action Item: No further action is necessary.

Pile Driving Tolerances-Std. Specs. 6-05.3(11) A

The Std. Spec. read as follows: "For elevated pier caps, the tops of piles at cut-off elevation shall be within 2 inches of the locations indicated in the Contract. For piles capped below final grade, the tops of piles at cut-off elevation shall be within 6 inches of the horizontal locations indicated in the Contract. No pile edge shall be nearer than 4 inches from the edge of any footing or cap. Piles shall be installed such that the axial alignment of the top 10 feet of the pile is within 4 percent of the specified alignment. No misaligned steel or concrete piles shall be pulled laterally. A properly aligned section shall not be spiced onto a misaligned section for any type of pile. Unless the Contract shows otherwise, all piles shall be driven vertically."

There was a discussion about the meaning of the underlined section in this specification. No one was sure what the intent of the specification was and that it would be discussed at the next meeting. The marine contractors would also be consulted to see if it was an issue with them in water work.

Action Item: This will be put on next month's agenda.

Constructability of Post Tensioning an Existing Structure

The team discussed constructability of an existing reinforced concrete box bridge that had insufficient reinforcement and different methods to strengthen the structure and eliminate some flexural cracking. A handout showed a method whereby a number of channel sections were attached to the bottom slab of the box girder. The channels were then heated to approx. 400 degrees and permanently attached to the bridge soffit. As the channels cooled, they shortened and transferred a post tensioning force to the structure. One other way to do this work would be by post tensioning with Dywidag bars.

Most of the discussion centered about how to heat the channels in the field, and if this heating would damage the structure. None of the contractors present had done something of this nature before and suggested using exterior bar tendons as the way to go. The heating of the channel was workable but contractors thought it was a little more risky, because of the heating possible damage to the existing structure could occur, also worker safety because of working around the hot steel was also troublesome. Other suggestions:

- Electrical current may be used to heat the channels

- Require protection of the surrounding concrete. Specify a max. acceptable temperature
- Galvanize the channels
- Use the infrared cameras to determine the heat flow through the channels
- Cost of falsework for the channel option

Action Item: No further action by the committee on this item.

General Special Provisions & Bridge Special Provisions, Prioritization for Future Review

This discussion item was deferred to the January meeting when more members will be present.

Action Item: Defer to next meeting

Std. Specification 6-02.3(24) Reinforcement

Deferred to the January meeting

Action Item: Review in January meeting.

Review of Team Accomplishments and Future Plans for the Committee

The past year the team has reviewed over 32 std. Specifications and commented on them, some of these have lead to revisions. The committee has also looked at new technologies, new construction methods and other items of interest.

Moh asked the committee members what they most liked to work on in the past year. Both contractors said they liked to look at future jobs and to look at options for structure type, also at constructability issues. Some topics brought up were:

New design technologies
New structure types, review by the team during preliminary plans
Different superstructures
Different Architectural features
SE Walls, footing connections, Drainage interference, and differential settlement
Design Build Specifications
Use of tension controlled bolts
Steel stay in place forms
New members

Things that were least interesting:

Specification Review

U of W work on Rapid Construction

The state is interested in working on the following:

Sharing information of the cast in place tubs in Spokane
NCHRP report on deck curing
Cracking of bridge decks
Fogging versus curing compound on bridge decks
Transverse deck tensioning
Looking at future bridge designs

The Calendar of Future Meetings
Jan. 28th
Feb. 25th
March 25th
April 22nd
May 20th
June 17th.

The meeting was adjourned at 11:30AM.